Quantitative Aptitude for RRB NTPC

Q1.

If $4^{4x+1} = \frac{1}{64}$,

then the value of x is

(a) $\frac{1}{2}$

(b) -1

(c) $-\frac{1}{2}$

(d) $-\frac{1}{6}$

Q2.

If $\sqrt{2^x} = 256$,

then the value of x is

(a) 14

(b) 16

(c) 18

(d) 20

Q3.

If $\left(\sqrt{5}\right)^7 \div \left(\sqrt{5}\right)^5 = 5^p$,

then the value of p is

(a) 5

(b) 2

(c) $\frac{3}{2}$

(d) 1

Q4.

If 1.5 a = 0.04 b

then $\frac{b-a}{b+a}$ is equal to

(a) $\frac{73}{77}$

(b) $\frac{77}{33}$

(c) $\frac{2}{75}$

(d) $\frac{75}{2}$

Q5.

If $x = (\sqrt{2}+1)^{\frac{1}{3}}$,
the value of $\left(x^3 - \frac{1}{x^3}\right)$ is

(a) 0
(b) $-\sqrt{2}$
(c) $+2$
(d) $3\sqrt{2}$

Q6.

If $\frac{x^2 - x + 1}{x^2 + x + 1} = \frac{3}{2}$,
then the value of $\left(x + \frac{1}{x}\right)$ is

(a) 4
(b) –5
(c) 6
(d) 8

Q7.

If $x = 3 + \sqrt{8}$,
then $x^2 + \frac{1}{x^2}$ is equal to

(a) 38
(b) 36
(c) 34
(d) 30

Q8.

If a = 11 and b = 9,
then the value of $\left(\frac{a^2 + b^2 + ab}{a^3 - b^3}\right)$

(a) $\frac{1}{2}$
(b) 2
(c) $\frac{1}{20}$
(d) 20

Q9.

If $\frac{2x-y}{x+2y} = \frac{1}{2}$,

then value of $\frac{3x-y}{3x+y}$ is:

(a) 1/5
(b) 3/5
(c) 4/5
(d) 1

Q10.

If $\sqrt{1-\frac{x^3}{100}} = \frac{3}{5}$, then x equals

(a) 2
(b) 4
(c) 16
(d) $(136)^{\frac{1}{3}}$

Q11. If distance between the point (x, 2) and (3, 4) is 2, then the value of x =

(a) 0
(b) 2
(c) 3
(d) 4

Q12. Find the mid-point of the line-segment joining two points (3, 4) and (5, 12).

(a) (–4, 8)
(b) (0, 8)
(c) (4, 8)
(d) (4, 0)

Q13. The mid-point of the line segment joining the points (–2, 4) and (6, 10) is

(a) (2, 5)
(b) (2, 7)
(c) (3, 7)
(d) (3, 8)

Q14. For which value of k given below the point A (–1, 4), B (2, 5) and C (3, k) are collinear ?

(a) 16/3
(b) 5
(c) 16
(d) –1

Q15. If A (3, 5), B (–5, – 4), C (7, 10) are the vertices of a parallelogram taken in the order, then the co-ordinates of the fourth vertex are
(a) (10, 19)
(b) (15, 10)
(c) (19, 10)
(d) (15, 19)

Q16. The centroid of a triangle, whose vertices are (2, 1), (5, 2) and (3, 4) is
(a) $\left(\frac{8}{3}, \frac{7}{3}\right)$
(b) $\left(\frac{10}{3}, \frac{7}{3}\right)$
(c) $\left(-\frac{10}{3}, \frac{7}{3}\right)$
(d) $\left(\frac{10}{3}, -\frac{7}{3}\right)$

Q17. The incentre of the triangle with vertices (1, √3), (0,0) and (2, 0) is
(a) $\left(1, \frac{\sqrt{3}}{2}\right)$
(b) $\left(\frac{2}{3}, \frac{1}{\sqrt{3}}\right)$
(c) $\left(\frac{2}{3}, \frac{\sqrt{3}}{2}\right)$
(d) $\left(1, \frac{1}{\sqrt{3}}\right)$

Q18. The equation of the line passing through (2, – 4) and parallel to X – 2Y – 5 = 0, is
(a) $2X + Y + 3 = 0$
(b) $X - 2Y - 10 = 0$
(c) $X - 2Y + 8 = 0$
(d) $X - 2Y + 13 = 0$

Q19. The equation of the line passing through the points (5, 3) and (3, 5) is
(a) $X - Y + 8 = 0$
(b) $X + Y + 8 = 0$
(c) $X - Y - 8 = 0$
(d) $X + Y - 8 = 0$

Q20. The slope of the line $a^2X - a Y + 1 = 0$, where a is constant,
(a) $-a^2$
(b) $-a$
(c) a
(d) None of these

Q21. Fraction between 2/5 and 4/9 is:
(a) 3/7
(b) 2/3
(c) 4/5
(d) 1/2

Q22. The sum of three consecutive odd natural numbers is 147, Then the middle number is:
(a) 47
(b) 48
(c) 49
(d) 51

Q23.
The unit digit in $(122)^{173}$ is?
(a) 2
(b) 4
(c) 6
(d) 8

Q24. Which is the largest of the following fractions?
$\frac{2}{8}, \frac{3}{5}, \frac{8}{11}, \frac{11}{17}$
(a) 8/11
(b) 3/5
(c) 11/17
(d) 2/8

Q25.
Given that $\sqrt{2} = 1.414$,
then the value of $\frac{1}{\sqrt{2}+1}$
(a) 0.414
(b) 2.414
(c) 3.414
(d) 5.414

Q26. Simplified value of the following expression is:
$$\frac{1}{\sqrt{11-2\sqrt{30}}} - \frac{3}{\sqrt{7-2\sqrt{10}}} - \frac{4}{\sqrt{8-4\sqrt{3}}}$$
(a) $-2\sqrt{2}$
(b) 1
(c) $\sqrt{2}$
(d) $\sqrt{3}$

Q27.

If $x = 3 + 2\sqrt{2}$,

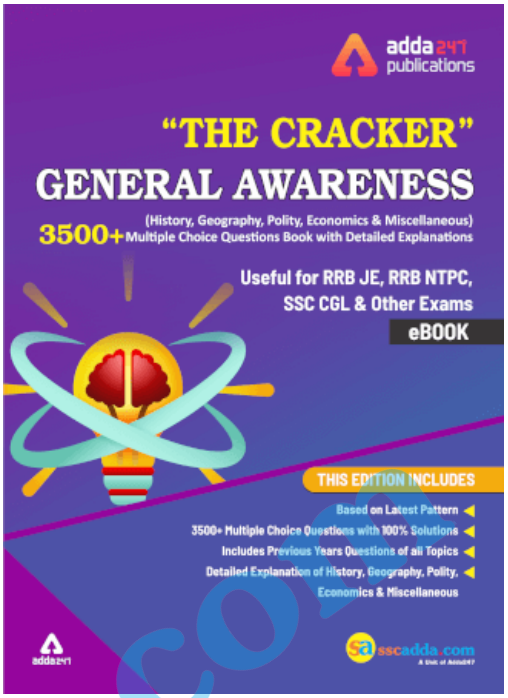
then the value of $\left(\sqrt{x} - 1/\sqrt{x}\right)$ is:

(a) 1

(b) 2

(c) $2\sqrt{2}$

(d) $3\sqrt{3}$



Q28. The product of two numbers is 20736 and their HCF is 108. Find their LCM.

(a) 685

(b) 468

(c) 648

(d) 192

Q29.

HCF of $\frac{2}{3}, \frac{4}{5}$ and $\frac{6}{7}$ is

(a) 48/105

(b) 2/105

(c) 1/105

(d) 24/105

Q30. If 120 is 20% of a number, then 120% of that number will be:

(a) 20

(b) 120

(c) 480

(d) 720